Remarks

The office action mailed October 5, 2006 has been carefully reviewed and these remarks are responsive thereto. Claims 1-23 are pending and stand rejected. Claims 24-26 are added. No new matter is introduced.

The office action rejected claims 1-23 under 35 U.S.C. § 103 based on U.S. Patent App. Pub. No. 20030197488 (Hulvey) in view of U.S. Patent App. Pub. No. 20030063343 (Pheiffer et al., hereinafter "Pheiffer"). Applicant very respectfully traverses for at the least the reasons set forth herein.

Independent claim 1 recites a device comprising a battery power source, a radio transceiver powered by the battery, a memory having a plurality of power management algorithms and a controller. The controller is configured to implement, based on a connection configuration identified in a wireless transmission from a remote device, one of the plurality of power management algorithms. The office action asserts at page 3 that lines 1-5 of Hulvey paragraph [0068] teach implementing, based on the configuration identified, one of the plurality of power management algorithms. The office action is not correct.

Lines 1-5 of Hulvey paragraph [0068] state

> [0068] According to the Bluetooth Specification, in the Inquiry scan state 1104, the slave is to listen for pages in one of three different modes. In a first operation, the slave determines the 32 frequencies of the page hopping sequence. Then, the slave enters one of three modes, R0, R1, and R2.

Hulvey *only* states that the slave enters one of modes R0, R1 or R2. Hulvey does not indicate that a particular slave is able to implement more than one of those modes. Even if a slave could implement more than one of those modes, however, there is no teaching or suggestion in Hulvey that the slave would implement one of those modes based on a connection configuration identified by one or more parameters in a wireless transmission from a remote device.[1]

The office action next makes the following statement on page 3:

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[1] In actuality, the "Bluetooth Specification" suggests that the slave unilaterally informs the master which one of modes R0, R1 or R2 is supported by the slave. See Specification of the Bluetooth System v1.2 at section 6.5.1.4 (FHS packet used in page master response includes "SR" field in which one of mode R0, R1 or R2 is specified). Concurrently with this Amendment, Applicant is submitting version 1.2 of the Bluetooth Specification in a supplemental information disclosure statement.

> Hulvey does not teach a method including a plurality of power management
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> algorithms. Specifically Hulvey teaches a method of setting power levels of a wireless
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> device via signals sent wirelessly, wherein there is a need for conserving power while
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> extending the battery life of the wireless device. However, Hulvey only recites a single
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> power management algorithm and fails to detail a plurality of algorithms as recited by
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> applicant. A routineer in the art would have been motivated to look for a teaching for
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> the possible method of conserving power of a device by signals sent wirelessly.

The first and third sentences of the above office action passage are correct. Hulvey does not teach a plurality of power management algorithms within a single device. Notably, these correct office action statements contradict the prior assertion that lines 1-5 of Hulvey paragraph [0068] teach the claimed feature of a controller configured to "implement, based on the configuration identified, one of the plurality of power management algorithms." If a device does not have more than one power management algorithm, it logically could not implement one of multiple algorithms *based on* a connection configuration. The second sentence of the above office action passage is *not* correct. Hulvey does *not* teach "a method of setting power levels of a wireless device via signals sent wirelessly," and the office action provides no support for such an assertion. The last sentence of the above passage is also incorrect. Even if a "routineer" would have been motivated to search for ways to conserve battery power in a device, the office gives no explanation why that routineer would think to conserve power "by signals sent wirelessly."

The office action then argues for a combination of Hulvey with Pheiffer. Pheiffer is non-analogous art, and any combination with Hulvey is improper. As set forth in MPEP § 2141.01(a) I.:

> The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals,

logically would have commended itself to an inventor's attention in considering his problem."); *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993); and *State Contracting & Eng'g Corp. v. Condotte America, Inc.*, 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003) (where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved).

Pheiffer cannot be considered analogous art under any of the criteria set forth in § 2141.01(a) I. Pheiffer describes a system for managing signal power levels in an optical network. Pheiffer at [0009]. In other words, Pheiffer controls the power of light signals in the optical fibers transmitting information between nodes in a network. E.g., Pheiffer at [0040]-[0053]. The signal power is controlled for purposes of minimizing errors in the information transmitted via optical paths. E.g., Pheiffer at [0003]-[0008]. Pheiffer is not concerned with the electrical power used in the network nodes (or elsewhere) to generate those information-carrying optical signals. Clearly, maintaining signal power levels in an optical network for purposes of reducing transmission error is not in the field of Applicant's invention (reducing battery power consumption in a battery-powered device). Moreover, Pheiffer is not reasonably pertinent to Applicant's invention. A person (such as Applicant) seeking to prolong battery life in a wireless device simply would not look to prior art that is silent as to electrical power consumption. Indeed, the word "battery" is not even used in Pheiffer.

The entire office action argument for combining Hulvey and Pheiffer is built on a false premise. The office action introduces Pheiffer on page 3 by stating that "Pheiffer teaches another method of *conserving* power by controlling power based on signals sent wirelessly" (emphasis added). Pheiffer is completely unrelated to "conserving" power. As set forth above, the "power" at issue in Pheiffer is the signal power of light in fiber optic cables. Pheiffer controls this power so as to reduce errors in information transmitted with that light. Pheiffer gives no hint that it seeks to reduce the amount of electrical power used in a network node that receives or sends an optical signal. Pheiffer actually suggests the opposite. Specifically, one way in which Pfeiffer reduces optical signal power is through use of variable optical attenuators (VOA). See, e.g., Pheiffer at [0057]-[0067]. An attenuator would not reduce the amount of

electrical power used to create an optical signal, but would instead be used to drain power from an optical signal that has already been generated.

For at least the reasons set forth above, claim 1 is allowable. Claims 2-9 depend from claim 1 and are allowable the same reasons as claim 1 and because of additional features recited therein. For example, claim 2 recites that the controller is configured to detect the presence of one or more parameters by determining if a wireless connection with the remote device has at least one parameter corresponding to an acceptably fast re-connection procedure. Because it depends from claim 1, claim 2 thus recites that the controller is configured to implement a power management algorithm based on the presence or absence of such an acceptably fast re-connection parameter. Hulvey paragraph [0070], upon which the office action relies, says nothing about a *determination* that might relate to an *acceptably fast re-connection procedure*. Hulvey paragraph [0087] describes a discovery process in which a master and slave determine if modified paging operations are supported, but says nothing about implementing one of multiple power management algorithms based on whether modified paging operations are supported. Moreover, and even if Hulvey could be combined with Pheiffer, the feature of claim 2 is still absent. Pheiffer has no teaching or suggestion about the rapidity with which a re-connection might occur, much less implementing a power management algorithm based on how fast a connection might be re-established.

Claim 3 recites that the controller is configured to implement, upon determining the presence of the at least one parameter (corresponding to an acceptably fast re-connection procedure), a power management algorithm in which the transceiver is deactivated after a first period of device inactivity. Claim 3 further recites that the controller is configured to implement, upon determining the absence of the at least one parameter, a power management algorithm of the plurality in which the transceiver is deactivated after a second period of device inactivity, the second period being longer than the first period. The office action asserts that Hulvey teaches this feature at paragraph [0068], Fig. 9, and lines 7-20 of paragraph [0087]. Paragraph [0068] describes a slave entering one of modes R0, R1 or R2, and paragraph [0087] describes determining whether modified paging operations are supported. Hulvey does not teach or suggest that a device implements one of modes R0, R1 or R2 based on whether modified paging

operations are supported. Fig. 9 is a state flow diagram showing how a device reaches one of four separate power conservation modes. Although the flow chart of Fig. 9 is a power management algorithm, Hulvey fails to teach or suggest that the algorithm is modified based on whether modified paging operations are supported.

Independent claim 10 also stands rejected under 35 U.S.C. § 103 based Hulvey in view of Pheiffer. As set forth above, Hulvey and Pheiffer are not properly combinable. Accordingly, claim 10 is also allowable. Claims 11-15 depend from claim 10 and are allowable for the same reasons as claim 10 and because of additional features recited therein. For example, claim 11 (based on its dependency from claim 10) recites implementing a first power management algorithm if the remote device supports a first communication feature, and implementing a second power management algorithm if the remote device does not support the first feature, wherein the first communication feature comprises support for an acceptably fast re-connection procedure. For reasons similar to those discussed above in connection with claim 2, this feature is not taught or suggested by Hulvey or Pheiffer (alone or in combination). Claim 12 recites that the first power management algorithm comprises deactivating a transceiver after a first period of wireless device inactivity, and   the second power management algorithm comprises deactivating the transceiver after a second period of wireless device inactivity, the second period being longer than the first period. For reasons similar to those discussed above in connection with claim 3, this feature is also not taught or suggested by Hulvey or Pheiffer (alone or in combination).

Independent claim 16 recites a machine-readable medium having stored thereon data representing sequences of instructions which, when executed by a processor, cause the processor to perform steps of a method similar to that of claim 10. Accordingly, claim 16 is allowable for the same reasons as claim 10. Claims 17-21 depend from claim 16 and are allowable for the same reasons as claim 16 and because of additional features recited therein. Claims 17 and 18 recite features similar to those of claims 11 and 12, and are thus allowable for the additional reasons set forth above.

Independent claim 22 recites a computer input device having a controller configured to perform steps similar to those set forth in claim 10, and is thus allowable for the same reasons as

claim 10. Claim 23 depends from claim 22 and is allowable for at least the same reason as claim 22.

Applicant has added new claims 24-26 to more fully claim his invention. These new claims depend from claim 1 and are allowable for at least the same reasons as claim 1. Support for claims 24-26 can be found, e.g., in paragraphs [27] through [30] or Applicant's specification as filed.

It is respectfully submitted that this application is in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in even better form for allowance, the Examiner is invited to contact Applicant's undersigned representative at the below-listed number.

Respectfully submitted,

BANNER & WITCOFF, LTD.

Dated: January 5, 2007   By: **/H. Wayne Porter/**
                                     H. Wayne Porter
                                     Registration No. 42,084

1001 G Street, N.W.
Washington, D.C. 20001-4597
Tel: (202) 824-3000
Fax: (202) 824-3001